

CLAIMS

- 1 A system comprising:
- 2 a processor;
- 3 a dynamic memory having an adjustable refresh frequency; and
- 4 at least one temperature sensor, coupled to the dynamic memory, to sense the dynamic
- 5 memory's temperature, the processor to adjust the refresh frequency of the dynamic
- 6 memory based at least in part to the dynamic memory's sensed temperature.
- 1 2. The system of claim 1 wherein the dynamic memory comprises a low-power synchronous
- 2 dynamic random access memory.
- 1 3. The system of claim 1 wherein the adjustable refresh frequency comprises a self-refresh
- 2 frequency.
- 1 4. The system of claim 1 wherein the adjustable refresh frequency comprises a distributed
- 2 refresh frequency.
- 1 5. The system of claim 1 wherein the temperature sensor is integrated with the dynamic
- 2 memory.
- 1 6. The system of claim 1 wherein the temperature sensor is attached to a ceramic package of the
- 2 dynamic memory.

1 7. The system of claim 1 wherein the temperature sensor is located within several centimeters of
2 the dynamic memory.

1 8. The system of claim 1 wherein the system comprises at least one of a personal digital
2 assistant, a cellular phone, an Internet tablet, a personal computer.

1 9. An article comprising:
2 a storage medium having stored thereon instructions, that, when executed by a computing
3 platform, result in adjusting a frequency of a refresh operation of a dynamic memory of the computing
4 platform by:
5 sensing a temperature of the dynamic memory ; and
6 adjusting the frequency of the refresh operation based at least in part on the dynamic memory's
7 sensed temperature.

1 10. The article of claim 8, wherein said dynamic memory comprises a low-power synchronous
2 dynamic random access memory.

1 11. The article of claim 8, wherein the temperature sensor is integrated with the dynamic
2 memory.

1 12.. The article of claim 8, wherein the temperature sensor is attached to a package of the
2 dynamic memory.

1 13. The article of claim 8, wherein the temperature sensor is located within several
2 centimeters of the dynamic memory.

1 14. The article of claim 8, wherein the computing platform comprises at least one of a
2 personal digital assistant, a cellular phone, an Internet tablet, a personal computer.

1 15. The article of claim 8, wherein the refresh operation is a self-refresh operation.

1 16. The article of claim 8 wherein the refresh operation is a distributed refresh operation.

1 17. A method comprising:

2 sensing a temperature of a memory;

3 issuing a command to the memory; and

4 adjusting a refresh frequency of the memory based at least in part to the memory's

5 sensed temperature.

- 1 18. The method of claim 16 wherein issuing a command comprises setting a value in an
2 extended mode register of the memory.
- 1 19. The method of claim 16 wherein the memory is a low-power synchronous dynamic
2 random access memory.
- 1 20. The method of claim 16 wherein sensing the temperature comprises locating a temperature
2 sensor within zero to seven centimeters of the memory.
- 1 21. The method of claim 16 wherein sensing the temperature comprises integrating a
2 temperature sensor with the memory.
- 1 22. The method of claim 16 wherein sensing the temperature comprises coupling a temperature
2 sensor with a package of the memory.